

METHOD OF IMPROVING TRANSIENT NOISE OF A SWITCHING DC-TO-DC CONVERTER WITH MULTIPLE OUTPUT VOLTAGES

Abstract

A first oscillating signal presenting a peak, a valley, a rising portion gradually increasing from the valley to the peak, and a falling portion gradually decreasing from the peak to the valley is generated. A second oscillating signal presenting an instantly transiting edge, which occurs simultaneously with either the peak or the valley of the first oscillating signal, is generated. The first and the second oscillating signals are input to a first and a second power supply channels, respectively, for converting a DC voltage source into two separate DC output voltages. The first and the second oscillating signals cause at least one switching transition of the first power supply channel to occur separately in the time domain from at least one switching transition of the second power supply channel, thereby preventing transient spikes from superposing together.